THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 40

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte DEAN HATFIELD and PAUL KIUNKE

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Appeal No. 96-0948
Application No. 08/262,400[1]

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ON BRIEF

_____

Before MEISTER, ABRAMS, and GONZALES, ***Administrative Patent Judges***.

ABRAMS, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is an appeal from the decision of the examiner finally rejecting claims 1, 2, 4-12, 14-18 and 22-25. Claims 19 and 21 have been allowed, and claims 3 and 13 have been

[1]Application for patent filed June 20, 1994. According to appellants, this is a continuation of Application No. 07/989,408, filed December 11, 1992, now abandoned.

indicated by the examiner as containing allowable subject matter.

The appellants' invention is directed to a multi-sensor electro-optical boresight mechanism. The subject matter before us on appeal is illustrated by reference to claim 1, which reads as follows:

1. A multi-sensor, electro-optical boresight mechanism comprising:

an optical bench;

a telescope, mounted to said optical bench, for receiving a target signal;

first sensor means, mounted to said optical bench, for sensing a first frequency component of said target signal and generating an image therefrom;

second sensor means, mounted to said optical bench, for sensing a second frequency component of said target signal and generating an image therefrom;

boresight target generation means, mounted to said optical bench, for internally generating a boresight target signal along a first optical path; and

optical means, mounted to said optical bench, for allowing said first and second sensor means to sense said boresight target signal.

THE REFERENCE

The single reference relied upon by the examiner to support the final rejection is:

Sud *et al.* (Sud) 4,811,061 Mar. 7, 1989

THE REJECTIONS

Claims 1, 2, 4, 8, 10-12, 14, 15 and 22-25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sud.

Claims 5-7, 9 and 16-18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sud.

The rejections are explained in the Examiner's Answers.[2]

The arguments of the appellants in opposition to the positions taken by the examiner are set forth in the Briefs.

OPINION

In reaching our decision on the issues raised in this appeal, we have carefully assessed the claims, the prior art applied against the claims, and the respective views of the

[2]Rejections of claims 4, 9, 10, 15 24 and 25 under 35 U.S.C. § 112, second paragraph, were cured by amendments entered after the final rejection (see Paper No. 39).

examiner and the appellants as set forth in the Answer and the Brief.

The Rejection Under 35 U.S.C. § 102(b)

The guidance provided by our reviewing court with regard to the matter of anticipation is as follows: Anticipation is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of the claimed invention. See ***In re Paulsen***, 30 F.3d 1475, 1480-1481, 31 USPQ2d 1671, 1675 (Fed. Cir. 1994) and ***In re Spada***, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990). Anticipation by a prior art reference does not require either the inventive concept of the claimed subject matter or recognition of inherent properties that may be possessed by the reference. See ***Verdegaal Brothers Inc. V. Union Oil Co. Of California***, 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987). The law of anticipation does not require that the

reference teach what the applicant is claiming, but only that the claim on appeal "read on" something disclosed in the reference, *i.e.*, all limitations of the claim are found in the

reference. See ***Kalman v. Kimberly-Clark Corp.***, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 (1984). It is only necessary that the reference include structure capable of performing the recited function in order to meet the functional limitations of the claim. See ***In re Mott***, 557 F.2d 266, 269, 194 USPQ 305, 307 (CCPA 1977).

Independent claims 1 and 12 both stand rejected as being anticipated by Sud. Claim 1 is directed to a multi-sensor, electro-optical boresight mechanism comprising an optical bench, a telescope mounted to the optical bench for receiving a target signal, first and second sensor means mounted on the optical bench for sensing, respectively, first and second frequency components of the target signal and generating an image therefrom, boresight target generation means mounted to the optical bench for "internally" generating a boresight target signal along an optical path, and optical means mounted to the optical bench for allowing the first and second means to sense the boresight target signal.

The only argument advanced by the appellants against the rejection of claim 1 is found on page 3 of the Brief, and is

that both of Sud's boresight target signals (red light 34 and near infrared 38) are externally generated, rather than internally generated, as required by claim 1. We do not agree. According to Sud, Figure 1 shows a polychromatic boresighting device and Figure 2 shows "a possible arrangement of the different elements of a sighting apparatus including a device such as shown in **FIG. 1**" (column 2, lines 39-44, emphasis added). As we understand the Sud disclosure, a boresighting device that generates three signals of different wavelengths (10) is shown in detail in Figure 1, and in combination with the actual fire control system in Figure 2 (where it clearly has erroneously been labeled with the numeral 12). From our perspective, the Sud boresighting component is a boresight target generation means, and it is "internal" in the same sense as the appellants' invention in that it does not rely upon signals generated from outside the fire control system, such as beams aimed down the telescope from an externally positioned source. This being the case, we are not persuaded by the appellants' argument that the subject matter recited in claim 1 is not anticipated by Sud, and we will sustain the rejection.

In view of the fact that the appellants have chosen not to challenge with any reasonable specificity before this Board the rejection of dependent claims 2, 4, 8, 10, 11 and 22, they are grouped with independent claim 1, from which they depend, and fall therewith. See ***In re Nielson***, 816 F.2d 1567, 2 USPQ2d 1525 (Fed. Cir. 1987).

The appellants have advanced two arguments with regard to the rejection of independent claim 12. The first of these is the same as was discussed above with regard to claim 1, that is, that the Sud boresight target generator is not internal. We do not agree, for the reasons discussed above. The second argument is that Sud is not a “common aperture” system, as required by claim 12 (Brief, page 4). Be begin our evaluation of this issue by pointing out that the definition of a ”common aperture” system has not explicitly been set forth in the appellants’ specification, nor has any component of the system been identified as the “common aperture.” Two clues are provided, however, that lead us to believe that the “common aperture” is the telescope, in which case the Sud device meets the terms of the claim. The first clue is found on page 2 of the specification, where it is explained that most current

systems employ multiple apertures “to allow each sensor to view the targets simultaneously.” This would suggest that an “aperture” is an opening through which a sensor views the target in the fire control mode, and that in the prior art each sensor was provided with a separate aperture. Such a conclusion appears to be confirmed on page 9, where it is stated that the present invention “provides a boresight mechanism that utilizes fixed optical components and a common aperture telescope to reduce boresight error buildup” (emphasis added). Therefore, in the absence of any direction otherwise in the appellants’ specification, it is our opinion that the telescope is the “common aperture” recited in the preamble of claim 12. Although a telescope is not shown in the Sud drawings, it is described in column 4 as being part of the system, receiving the beams from mirror 42 (line 22 *et seq.*), and is “common” in that all of the beams projected and returned from the device when in the fire control mode pass through it.

We therefore conclude that the subject matter of claim 12 is anticipated by Sud, and we will sustain this rejection. In

the absence of arguments regarding the separate patentability of dependent claims 14, 15 and 23, they fall with claim 12.

Claims 24 and 25 add to each of claims 1 and 12 the requirement that the optical means be "affixed to said optical bench." The appellants argue that this feature is not present in Sud, in that prisms 56 and 68, and corner cubes 62 and 66, are moved in and out of position with respect to the optical bench. However, we believe this to be too narrow an interpretation of the term "affixed," the common definition of which is "to attach physically . . . in any way."[3] The claims do not specify that the optical means be immovable - but merely affixed - and therefore it is our opinion that the optical means of Sud meets the terms of these claims. Moreover, we agree with the examiner that once the various prisms and cubes of Sud are in position to allow the first and second sensing means to sense the boresight target signal, they are affixed in that position for so long as that mode is in operation. Finally, although not explicitly stated, one of ordinary skill in the art would recognize that all of the

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[3]See, for example, Merriam Webster's Collegiate Dictionary, Tenth Edition, 1996, page 20.

optical components of the Sud system, whether movable or immovable, must be attached in some way to an "optical bench" in order for the device to be functional.

The Section 102 rejection of claims 24 and 25 is affirmed.

The Rejection Under 35 U.S.C. § 103

It is axiomatic that the test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, ***In re Keller***, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See ***Ex parte Clapp***, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example,

Uniroyal ,Inc. V. Rudkin-Wiley **Corp.**, 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1052 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988).

Claims 5 and 16 depend from claims 1 and 12, respectively, and require the presence of a pre-expander means interposed between the boresight target generation means and the telescope for magnifying a signal transmitted along the first optical path. In the Sud device, beams are emitted from sources and then are passed through holes to impinge directly upon mirrors that are shown as being of flat configuration. There is no explicit teaching in Sud for expanding these beams, and the examiner's conclusion that such action takes place is, at best, conjecture. It therefore is our view that Sud fails to establish a *prima facie* case of obviousness with regard to these two claims, and we will not sustain the rejection.

We reach the same conclusion with regard to the shutter means recited in claims 6, 7, 17 and 18. In the Sud apparatus, control of the path of beams between alternative routes is accomplished by deflecting them with movable prisms.

The examiner's conclusion that this would have suggested that shutters be used to block the beams is not supported by any evidence. In addition, in view of the fact that the prisms are used to transmit these beams as well as alter their direction, it would appear that shutters could not be substituted for the prisms without a wholesale redesign of the Sud system, which would operate as a disincentive to the proposed modification. In any event, we fail to perceive any teaching, suggestion or incentive which would have led one of ordinary skill in the art to modify the Sud system in the manner here proposed by the examiner. A *prima facie* case of obviousness therefore is not established, and the rejection of these claims cannot be sustained.

Claim 9 adds to the invention described by claims 1 and 8 "beam splitter means disposed adjacent to the laser source for reflecting the laser designation signal therefrom and transmitting the boresignt target signal along the same path." In the appellants' disclosure, a "beam splitter" is defined as a device, such as a mirror, that reflects certain frequencies while allowing others to pass through. Three such elements are present in the Sud system. The first two are mirrors 28

and 40, located inside the boresighting device 10, which pass or reflect beams from several sources in order to combine them into a single beam. Not only are these mirrors not adjacent to the laser source, but they do not reflect the laser signal. The third disclosed by Sud is mirror 54, which is located outside of the boresighting device. Even if considered to be "adjacent" to the laser source, mirror 54 acts upon the laser return signal, and not the laser "designation signal," which the appellant has defined in the specification as the laser signal that is projected out to the target (pages 5-6). We therefore cannot agree with the examiner that the subject matter of this claim is rendered obvious by the teachings of Sud, and we will not sustain the rejection of this claim.

SUMMARY

The rejection of claims 1, 2, 4, 8, 10-12, 14, 15 and 22-25 as being anticipated by Sud is sustained.

The rejection of claims 5-7, 9 and 16-18 as being unpatentable over Sud is not sustained.

The decision of the examiner is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

JAMES M. MEISTER Administrative Patent Judge	)	
NEAL E. ABRAMS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOHN F. GONZALES Administrative Patent Judge	)	

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